

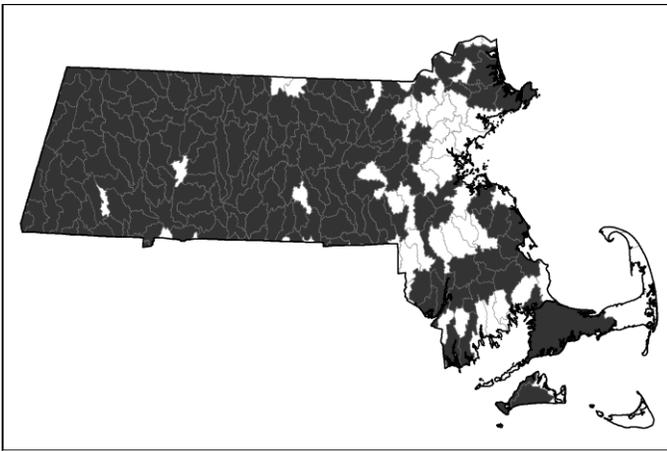


## Massachusetts Division of Fisheries & Wildlife

## Brook Trout *Salvelinus fontinalis*

State Status: **None**  
Federal Status: **None**

**SPECIES DESCRIPTION:** The Brook Trout (technically a char) has heavy dorsal vermiculations (worm-like markings) and a dark stripe behind the white leading edges of the pelvic and anal fins. In addition, they have a squarish or shallowly forked tail and red spots, often with blue halos, along the sides. Colors intensify during spawning and the lower flanks and belly of males become deep magenta. Adult Brook Trout in Massachusetts streams typically reach 6 to 8 inches in length, but 10 to 12 inch specimens are possible in unexploited populations. One- or two-year-old fish ranging from 3 to 6 inches are most numerous in stream populations, but those living in cold-water ponds and lakes and the coastal salter populations (a sea-run form) grow considerably larger and faster. Brook Trout spawn in both lakes and streams, although lake-spawning populations are rare in Massachusetts. The life span of Brook Trout in Massachusetts streams seldom exceeds three growing seasons. Stream Brook Trout are insectivorous throughout their lives. Pond-dwelling and salter Brook Trout populations tend to consume fish in addition to invertebrates.



Data from DFW Fisheries Surveys and Harvard Museum of Comparative Zoology

**DISTRIBUTION AND ABUNDANCE:** Reproducing Brook Trout are found all across Massachusetts. Due to widespread introductions, native populations are difficult to distinguish from stocked populations. Brook Trout are most common in western and central Massachusetts and occur only sporadically in the east. The eastern populations have declined, and today only a few geographically isolated populations remain. Likewise, salter Brook Trout that were historically found in one or two tributaries to Massachusetts Bay have been extirpated. Salters, though reduced in numbers, are still known from a few tributaries to Nantucket Sound, as well as Buzzards and Narragansett bays.

**HABITAT DESCRIPTION:** In Massachusetts, Brook Trout inhabit flowing, highly oxygenated, cold-water streams. They tolerate a variety of habitats, from high-gradient mountain streams to low-gradient meadow brooks generally kept cool by groundwater or springs. The sea-run form, or salter, has a life cycle similar to that of the Atlantic Salmon, with adults spending part of their lives in salt water. Brook Trout have more rigid temperature requirements than do Brown Trout, Rainbow Trout, or Atlantic Salmon. They generally do not tolerate water temperatures exceeding 68°F for extended periods of time. Studies in Massachusetts indicate that the optimum range for maximum activity and feeding is 55°-65°F. Stream populations spawn over gravel riffles composed of coarse sand or stones up to 4 inches in diameter. The remnant Brook Trout populations in eastern Massachusetts are indicators of the location of relatively undisturbed environments. Their continued presence serves as a barometer for measuring the condition of the environment for the trout and other organisms that require cold clean water.

**THREATS:** Any activities which decrease water quality, increase temperature or cause siltation of spawning habitat are detrimental to this sensitive species. Some populations rely on springs as refuge areas during the warmest periods of the year; if the flow of such springs is altered or reduced, it may result in the loss of the population.

*A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan*

**Massachusetts Division of Fisheries & Wildlife**

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**REFERENCE:**

This species description was adapted, with permission, from:  
Karsten E. Hartel, David B. Halliwell, and Alan E. Launer.  
2002. *Inland Fishes of Massachusetts*. Massachusetts  
Audubon Society, Lincoln, Massachusetts.